

#### **ABSTRACT OF THE DISCLOSURE**

A volume data encoder with high encoding efficiency is provided. The object of the coding is volume data which contains a plurality of tomogram planes output from a CT and an MRI. A 5 header analysis unit separates each plane image into header information and pixel information. A header compression unit compresses the separated header information. On the other hand, a two-dimensional transform unit conducts frequency decomposition on the pixel information. A skip portion 10 detection and table generation unit detects skip portions that are the same in all coefficients in a z-direction, and stores them in a table. A one-dimensional transform unit conducts one-dimensional transform on the pixel information for coefficients except the skip portions. A unit block division 15 unit divides each subband into unit blocks. An entropy encoding unit determines a parameter for entropy encoding according to statistical properties of all coefficients in all unit blocks included in each class.